mate orbit. They were made principally with the author's equatorial telescope, having a focal length of 25 feet 3 inches, and a clear aperture of 13·3 inches. Some few, however, were taken with the finder, which is 6 feet 6 inches in focal length, and 4·9 inches clear aperture. The eye-pieces used were, one by Frauenhofer (an illuminated wire-micrometer), one by Messrs. Troughton and Simms (an illuminated field-micrometer), a comet eye-piece, and the ordinary eye-piece of the finder. The first of these had a magnifying power of about 400, the second of 226, the third of about 95, and the fourth about 40.

"An Account of the great Earthquake experienced in Chili, on the 20th of February 1835," with a Map. By Alexander Caldcleugh, Esq., F.R.S.

An idea formerly prevailed among the inhabitants of Chili, that the earthquakes of those regions take place at certain regular periods; but it is now sufficiently proved, from the numerous catastrophes of this kind which have occurred during the present century, that they may happen indiscriminately at all times, and in all states of the atmosphere. The author is disposed to place but little reliance on most of the supposed prognostics of these convulsions: but he mentions that, previously to the earthquake described in the present paper, there were seen immense flocks of sea birds, proceeding from the coast towards the Cordillera, and that a similar migration had been noticed prior to the great shock of 1822. From his own observations, he concludes that the barometer usually falls shortly before any considerable shock, and that it afterwards rises to its ordinary mean height. Both before, and also at the time of the convulsion, the volcanos of the whole range of the Cordillera were observed to be in a state of extraordinary activity.

The earthquake began at half-past eleven o'clock in the morning of the 20th of February. The first oscillations of the earth were gentle, and attended with little noise: they were succeeded by two extremely violent tremors, continuing for two minutes and a half, the principal direction of the motion being from south-west to north-east; and they were attended by a loud report, apparently proceeding from the explosions of a volcano to the southward. All the buildings of the town of Conception were thrown down during these undulations. At the expiration of half an hour, when the inhabitants, who, on the first alarm, had fled to the neighbouring heights, were preparing to return to their houses, it was observed that the sea had retreated to such a distance that the ships in the harbour were left dry, and all the rocks and shoals in the bay were exposed to view. At this period an immense wave was seen slowly advancing towards the shore, and, rolling majestically onwards, in ten minutes reached the city of Conception, which was soon overwhelmed in a flood of an altitude of 28 feet above high-water mark. The few persons who had remained in the town had but just time to make their escape, and to behold from the rising grounds, the complete submersion of the city. All objects that were movable were swept away into the ocean by the reflux of this great wave, which was succeeded by several similar, but smaller

waves, completing the work of destruction, and leaving behind them, on their final retreat, a scene of universal havoc and desolation.

The island of Santa Maria, which is situate to the southward of the bay of Conception, and is about seven miles broad, and two long, remained, after the earthquake, permanently elevated at least ten feet above its former position; and a similar change was found to have taken place with regard to the bottom of the sea immediately surrounding the island. The amount of this elevation was very accurately ascertained by the observations of Capt. Fitzroy, who had, previously to the earthquake, made a careful survey of the shores of that island; thus supplying the most satisfactory and authentic testimony to this important fact.

The author gives, in the course of the paper, several particulars relating to the effects of the earthquake in different parts of the Chilian coast; the oscillations appearing to have extended to the north as far as Coquimbo, and to the east as far as Mendoza, at the ridge of the great chain of the Andes. Vessels navigating the Pacific Ocean, within a hundred miles of the coast, experienced the shock with considerable force. Its influence was very perceptible in the island of Juan Fernandez, a basaltic mass 360 miles distant from the coast; as was shown by the sudden elevation and subsidence of the sea, which at one time rose 15 feet above the usual level, carrying all before it.

Anniversary Meeting, Nov. 30th, 1835.

JOHN WILLIAM LUBBOCK, Esq. V.P. and Treasurer, in the Chair.

Samuel Hunter Christie, Esq., as one of the Auditors on the part of the Society, reported that the balance in the Treasurer's hands at the present Audit was £218 13*s.* 7*d.*

The thanks of the Society were voted to the Auditors for their trouble in auditing the Treasurer's accounts.

The Secretary then read the following Report:

"The Council have to report the following statement of their proceedings during the past year, as far as they relate to matters of general interest to the Society.

"The vacancy in the offices of Assistant Secretary and Librarian, occasioned by the resignation of Mr. Hudson, has been supplied by the appointment of Mr. Roberton as Assistant Secretary, at a salary of 160*l.* per annum, with the use of a bed-room, sitting-room, coals, and candles; and with the understanding that his whole time shall be at the service of the Society; and of Mr. Shuckard as Librarian, at a salary of 50*l.* per annum: the duties of the latter being to have the care of the Library, under the superintendence of the Library Committee, to make all entries of books presented to, or bought by, the Society, and to give his attendance in the Library from 12 to 4 o'clock on two stated days in the week, Thursday being one of those days.